

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.: 09/750,144 Confirmation No.: 6775
Appellant(s): Steve Lewontin
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Art Unit: 2176
Examiner: Nguen Ba, Paul H.
Title: COMPACT TREE REPRESENTATION OF MARKUP LANGUAGES

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Alexandria, VA 22313-1450

SECOND REPLY BRIEF UNDER 37 CFR § 1.193(b)(1)

This Second Reply Brief is filed pursuant to 37 CFR §1.193(b)(1) and is filed in response to the Revised Examiner's Answer of July 5, 2007; Appellant having previously filed a First Reply Brief in response to the First Examiner's Answer of November 14, 2006. Both of the First and Revised Examiner's Answers were filed in response to an Appeal Brief filed August 22, 2006. This Second Reply brief is being filed as a formal response to the Revised Examiner's Answer, but otherwise includes mostly the same content as the First Reply Brief. Appellant also presumes that, with the exception of a few minor differences, the Revised Examiner's Answer includes the same content as the First Examiner's Answer. Thus, like the Reply Brief, this Second Reply Brief addresses a number of points arising from the Appeal Brief, as well as the First and Revised Examiner's Answers to the same, both of the Examiner's Answers collectively being referred to herein as the "Examiner's Answer."

6. ***Grounds of Rejection to be Reviewed on Appeal.***

As indicated in the Appeal Brief and noted in the Examiner's Answer, all of the pending claims of the present application, namely Claims 1-12, currently stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Simon Hunt publication in view of the Amano patent, alone or further in view of the Call publication. In the Examiner's Answer, however, the Examiner has cited additional prior art against the claimed invention. That is, although the Examiner alleges that the Simon Hunt publication discloses the data array feature of the claimed invention, the Examiner additionally alleges that it was known to those skilled in the art and would have been obvious to implement the DOM tree of the Simon Hunt publication as an array (or as a linked list) in a manner similar to the popular browsers such as Internet Explorer and Mozilla. Appellant respectfully views this as an additional, new ground of rejection of the claimed invention, and accordingly present further arguments below explaining that even if Internet Explorer and Mozilla used an array implementation of DOM trees, it would not have been obvious to implement the DOM tree of the Simon Hunt publication in a similar manner.

7. ***Argument.***

As explained in the Appeal Brief, in contrast to the claimed invention, the Simon Hunt publication does not teach or suggest, for each one of the nodes in a virtual tree, a data array including information identifying the relationship of the node to other nodes in the virtual node tree, and a reference indicating the location of data corresponding to the node. The final Official Action and Examiner's answer allege that the Simon Hunt publication discloses the aforementioned feature. In addition, however, the Examiner's Answer now further alleges the following:

... Moreover, it was commonly known to those of ordinary skill in the art and would have been obvious at the time of the invention was made to a person having ordinary skill in the art that DOM trees can be implemented as an array (or as a linked list) for the motivational purpose of implementing a organized data structure. Popular browsers such as Internet Explorer and Mozilla used the array implementation for their DOM trees)

Examiner's Answer, pages 3-4. And see pages 10-11, where the Examiner similarly alleges the following:

Moreover, it was commonly known to those of ordinary skill in the art at the time of the invention was made to a person having ordinary skill in the art that DOM trees were implemented using an array (or a linked list) for the motivational purpose of implementing a organized data structure of markup documents (DOM data arrays were used specifically to identify the relationship and locations of nodes). Popular Internet browsers such as Internet Explorer and Mozilla specifically used the array implementation for their DOM trees.

Therefore the [Simon Hunt provisional] discloses, or at the very least made obvious to one skilled in the art at the time of the invention, a data array including information identifying the relationship of a node to other nodes in the virtual tree and a reference indicating the location of data corresponding to the node.

Examiner's Answer, pages 10-11 (emphasis added).

As to the aforementioned additional prior art allegations, Appellant initially submits that, to the extent the Examiner's Answer has taken notice of facts not in the record or relied on common knowledge in the art, in accordance with MPEP § 2144.03, Appellant expressly traverses the taking of official notice and requests that the Examiner include documentary evidence of such facts so that Appellant may appropriately respond to such allegations. As a principle error in alleging facts outside of the record, Appellant notes that even if popular browsers such as Internet Explorer and Mozilla implemented DOM trees as arrays, the Examiner's Answer has not alleged, or provided documentary evidence, that such browsers implemented DOM trees further including a data array for each one of the nodes in a DOM tree, similar to the claimed invention. In this regard, even taking the alleged facts as a given (although expressly not admitted), Appellant questions whether the DOM tree implementation of Internet Explorer and Mozilla included a data array for each node of the DOM tree, where each data array included information identifying the relationship of the node to other nodes in the virtual node tree, and a reference indicating the location of data corresponding to the node, similar to the claimed invention.

Appellant further notes that even if Internet Explorer and Mozilla implemented DOM trees as data arrays, the Examiner's Answer has not provided proper motivation for modifying the DOM tree of the Simon Hunt publication to include such an implementation. As indicated above, the Examiner's Answer suggests that one skilled in the art would have been motivated to

implement the W3C-implemented DOM tree as a data array per Internet Explorer or Mozilla, because such trees “could” be implemented as a data array to “implement an organized data structure.” Appellant respectfully submits, however, that the W3C-implemented DOM tree of the Simon Hunt publication already implements an organized data structure, and therefore would not additionally benefit from any data array DOM implementation of Internet Explorer or Mozilla.

In addition, Appellant respectfully submits that the fact that the DOM tree of the Simon Hunt publication “could” be implemented as a data array as in Internet Explorer or Mozilla, without the prior art also suggesting the desirability of the modification, does not provide sufficient motivation for the modification. In this regard, as stated in the MPEP, “the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.” MPEP § 2143.01, *citing In re Mills*, 916 F.2d 680 (Fed. Cir. 1990). As has been held by the Board of Patent Appeals and Interferences, and noted in the MPEP, the mere fact that one skilled in the art could adapt the reference device to meet the terms of a claim is not by itself sufficient to support a finding of obviousness. The prior art must also provide a motivation or reason for one skilled in the art, without the benefit of applicant’s specification, to make the necessary modifications to the reference device. MPEP 2144.04(VI.)(C.) (*citing Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984)). Thus, Appellant respectfully submits that a conclusory statement that it would have been obvious to implement the Simon Hunt W3C-implemented DOM tree as a data array per Internet Explorer or Mozilla to implement an organized data structure (already implemented by the W3C-implemented DOM tree) does not by itself provide proper motivation for the modification to the Simon Hunt W3C-implemented DOM tree.

10. ***Response to Argument.***

The Examiner’s Answer responded to Appellant’s arguments under subsection A of section 7 of the Appeal Brief, and presented those arguments in subsections a, b and c of the

Examiner's Answer. Accordingly, Appellant addresses the Examiner's positions below under the same subsections as those presented in the Examiner's Answer.

a. Simon Hunt Cited Disclosure is not Prior Art to the Claimed Invention

As explained in the Appeal Brief, the Simon Hunt publication is only prior art for the subject matter that was first disclosed by the Simon Hunt provisional application and not subject matter first added in the utility application of the Simon Hunt publication or any of the subsequent utility applications from which the Simon Hunt publication claims priority. And as also explained, the final Official Action cited portions (i.e., paragraphs 0146-0151) of the Simon Hunt publication directed to a QDOM module generating a representation of a document object model (DOM) tree of a document into an array that includes the start and stop positions of the document text as corresponding to the claimed feature of providing a virtual node tree. The Simon Hunt provisional application, however, is silent as to the QDOM or its technique for generating a representation of a DOM tree.

In response to the foregoing, the Examiner's Answer alleges that, although the Simon Hunt provisional does not specifically use the term "QDOM," as in the Simon Hunt publication, the Simon Hunt provisional does disclose the QDOM of the Simon Hunt publication, the QDOM being "simply a DOM that identifies each node in the document using a unique value (see paragraph [0089])." Examiner's Answer, page 11. Despite repeated invitation, however, Appellant yet again notes that the Examiner has still failed to support the passages of the Simon Hunt publication cited for disclosing aspects of the claimed invention (i.e., paragraphs 0146-0151) with any corresponding passages of the Simon Hunt provisional application. Instead, the Examiner's Answer still only identifies passages of the Simon Hunt provisional application that are directed to other steps of the overall process, namely normalization steps of the overall process.

The Examiner's Answer further attempts to support the Simon Hunt provisional disclosing aspects of the claimed invention by citing aspects of a normalization process for a DOM tree. As a consequence of normalization, the Examiner's Answer alleges that the normalized DOM tree "contains data information describing the tree's structure, the tree's

dependencies (root, parent, child, etc.), and references to information content data (font attribute importance) with unique weight/priority values.” Examiner’s Answer, page 10. Even given the foregoing, Appellant maintains that the Simon Hunt provisional does not teach or suggest providing, for each one of the nodes of the DOM tree or normalized DOM tree, a data array including information identifying the relationship of the node to other nodes in the tree, and a reference indicating the location of data corresponding to the node. The Examiner’s Answer appears to suggest that the importance of an element of textual data as represented by its font attribute (font attribute importance) corresponds to the data, the location of which is indicated by a reference in the data array. To the contrary, however, Appellant respectfully submits that since the DOM tree or normalized DOM tree of the Simon Hunt provisional does not include a node for importance of the font attribute of textual data, the font attribute importance cannot logically be interpreted as data corresponding to a node, a reference indicating the location of which is provided in a data array for the respective node, in a manner similar to the claimed invention.

For at least those reasons given above as well as in the Appeal Brief, Appellant therefore again respectfully submits that the Simon Hunt publication, to the extent it is prior art to the claimed invention, does not teach or suggest providing, for each one of the nodes of a virtual node tree, a data array including information identifying the relationship of the node to other nodes in the virtual node tree, and a reference indicating the location of data corresponding to the node, as in the claimed invention.

b. The Amano Patent does not Teach/Suggest Elements of the Claimed Invention

As explained in the Appeal Brief, like the Simon Hunt publication (to the extent it’s prior art to the claimed invention), the Amano patent does not teach or suggest providing, for each one of the nodes of a virtual node tree, a data array including information identifying the relationship of the node to other nodes in the virtual node tree, and a reference indicating the location of data corresponding to the node, as in the claimed invention. In response, the Examiner’s Answer alleges that Appellant’s arguments are moot given that the Simon Hunt publication is cited for disclosing the aforementioned feature of the claimed invention. To the contrary, however, Appellant notes that, given that the Amano patent is cited as also including the aforementioned

feature of the claimed invention, Appellant's arguments to the contrary are not moot or immaterial, but rather presented to directly counter an interpretation proffered by the Examiner.

The Examiner's Answer further alleges that the Amano patent discloses pointers that reference the location of each of the nodes in a node tree. As explained in the Appeal Brief, the Amano patent does disclose generating a data structure whereby parent nodes are connected to child nodes via pointers. The Amano patent does not teach or suggest that the data structure includes, for each node of a virtual node tree, a reference indicating the location of data corresponding to the node, as recited by the claimed invention. Again, one could argue that the Amano patent discloses, for a parent node, a reference indicating the location of data corresponding to a child node. The Amano patent does not teach or suggest, however, that the data structure for the parent node includes a reference indicating the location of data corresponding to the respective parent node, similar to the claimed invention. In fact, the Amano patent explicitly discloses that the attributes of the parent node are set in the memory area assigned thereto, at least suggesting that the Amano patent discloses that the memory area for the parent node includes the data corresponding to the parent node, as opposed to a reference to the respective data.

c. No Motivation to Combine Simon Hunt and Amano

As further explained in the Appeal Brief, even if one could interpret (albeit incorrectly) the Simon Hunt publication and the Amano patent to disclose elements of the claimed invention to also be prior art to the claimed invention as alleged in the final Official Action, one skilled in the art would not have been motivated to combine the teachings of the Simon Hunt publication and Amano patent to teach or suggest the claimed invention. In response, the Examiner's Answer alleges that one skilled in the art would be motivated to modify the system of the Simon Hunt publication to simplify defining a tree and generating a tree structure corresponding to the tree in memory with the resultant description of the Amano patent. Appellant respectfully disagrees.

As in the Appeal Brief, the Amano patent provides a system and method for generating a data structure using a data tree through a table. This tabulation of a data tree and generation of a

data structure from the table, however, are separate and distinct issues from the generation of the data tree itself from an original document. One skilled in the art would not have been motivated to combine these distinct concepts because the generation of a data tree is a different issue from interpreting a data tree. In this regard, the ease with which the Amano patent interprets a data tree does not by itself provide motivation for one skilled in the art to modify the Simon Hunt publication to not only generate a tree, but also interpret its generated data tree in a manner similar to the Amano patent including the skeleton of a tree. That is, without an allegation that the Simon Hunt publication already discloses interpreting a generated data tree, or an allegation that one skilled in the art would be motivated to so modify the Simon Hunt publication, it is irrelevant how easy the Amano patent describes a tree and generates a data structure corresponding thereto. In the instant case, however, Appellant respectfully submits that one skilled in the art would have no motivation to modify the Simon Hunt publication to interpret its generated data tree in a manner similar to that in the Amano patent, including use of the skeleton of a tree (alleged to correspond to the virtual node tree without actual document data).

In view of the foregoing reasons as well as those presented in the Appeal Brief, Appellant respectfully submits that independent Claims 1 and 10, and by dependency Claims 2-9 and 11-21, are patentably distinct from the Simon Hunt publication and the Amano patent, taken individually or in combination. Thus, Appellant also respectfully submits that the rejection of Claims 1-3, 5, 7, 10-13, 15, 17, 20 and 21 as being unpatentable over the Simon Hunt publication in view of the Amano patent should be reversed.

CONCLUSION

For at least the foregoing reasons, as well as those presented in the Appeal Brief, Appellant respectfully requests that the rejections be reversed.

Respectfully submitted,



Andrew T. Spence
Registration No. 45,699

CUSTOMER NO. 00826

ALSTON & BIRD LLP
Bank of America Plaza
101 South Tryon Street, Suite 4000
Charlotte, NC 28280-4000
Tel Charlotte Office (704) 444-1000
Fax Charlotte Office (704) 444-1111

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